

ABSTRACT

The current Draft IEEE 802.11e standard specifies two types of schemes for obtaining an acknowledgement from a receiving station: BlockAck and NormalAck. The current specifications allow temporary use of NormalAck while transmitting data frames in a BlockAck scheme. The specifications however does not explicitly describe the data frames that are allowed to be transmitted using NormalAck. Should these data frames follow the same rules as in BlockAck schemes, and if the transmitting station has dynamically switched between these two types of schemes, the receiving station can know only with extended delays that unreceived data frames are no longer valid. Therefore, the passing of subsequent, successfully received data frames from the receiving station to an upper layer may be significantly delayed, which is a problem. Another problem occurs if a BlockAck scheme timeout is determined in accordance with the rules in the current draft: the resource being used for BlockAck, which should be released, may not be released forever. The present invention addresses these problems by making suitable changes to the transmission sequence of data that is allowed to be transmitted by NormalAck while transmitting data by BlockAck and the determination process for a BlockAck scheme timeout.